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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,070	04/21/2005	Kenji Yamane	OGW-0364	6097
7590 12/28/2007				
Patrick G. Burns Greer, Burns & Crain, Ltd. Suite 2500 300 South Wacker Drive Chicago, IL 60606				
			EXAMINER MAKI, STEVEN D	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 12/28/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/532,070	Applicant(s) YAMANE, KENJI	
	Examiner Steven D. Maki	Art Unit 1791	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 5-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17, 18, 20, 21 and 23 is/are allowed.
- 6) ☒ Claim(s) 1, 5-16, 19 and 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1) A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11-2-07 has been entered.

2) The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Incorporation of "a tire reversal rotational direction side edge portion which is not chamfered" (claim 1) into the specification. Such an incorporation is reasonably conveyed by the original disclosure (i.e. would not be new matter) in view of figure 2 and paragraph 33 on page 11 of the original disclosure.

3) Claims 1 and 5-16 are objected to because of the following informalities: In claim 1 line 10, "facingthe" should be --facing the--. Appropriate correction is required.

4) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5) Claims 14, 19 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 is indefinite because it is inconsistent with the claims upon which it depends. In light of the original disclosure (first lateral grooves 3 extend into blocks 6 in

the center region), it is readily apparent that claim 14 contains a typographical error. In claim 14 line 1, it is suggested to change "second" to --first--.

As to claim 19, it is unclear what additional limitation is being required.

Claim 22 is indefinite because it is inconsistent with the claims upon which it depends. In light of the original disclosure (first lateral grooves 3 extend into blocks 6 in the center region), it is readily apparent that claim 22 contains a typographical error. In claim 22 line 1, it is suggested to change "second" to --first--.

6) Claim 19 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 17. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

The limitation in claim 19 is already required by claim 17.

7) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Ikeda

9) **Claims 1, 5, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ikeda (US 5,526,858).**

Ikeda discloses a pneumatic tire for a heavy duty tire such as a truck or bus having a tread comprising circumferential grooves 2, a center rib, lateral grooves 3 and lugs 4 (blocks). The lateral groove has a cross section as shown in figure 2 wherein angle alpha = 0-20 degrees, angle beta = 5-45 degrees and angle gamma = 5-25 degrees. In an example, angle alpha = 10 degrees, angle beta = 30 degrees and angle gamma = 16 degrees.

The claimed tire is anticipated by Ikeda's tire. With respect to the claimed angle beta being greater than angle alpha, Ikeda teaches angle beta (e.g. 30 degrees) being greater than angle gamma (e.g. 16 degrees). The surface defining angle alpha constitutes a chamfered surface. As to not chamfered, the surface defining angle alpha is provided on only one side of the groove. In claim 1, "a tread surface having a direction of rotation of the tire which is specified in one direction" relates to intended use and fails to require structure not disclosed by Ikeda. Claim 1 fails to recite what and/or who is specifying the one direction of rotation.

10) **Claims 1, 5 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda in view of Matsumoto (US 5,152,854) and Japan 323 (JP 07-081323).**

Ikeda, which is discussed above, is considered to anticipate claim 1. In any event: It would have been obvious to one of ordinary skill in the art to provide the tread

of Ikeda's heavy duty tire such as a truck tire or bus tire such that the tread surface has a direction of rotation of the tire which is specified in one direction since (1) Matsumoto teaches that it is known to provide the tread surface of a pneumatic tire for trucks and buses as a directional tread pattern (figure 1) and (2) Japan 323 teaches that is conventional to provide the tread surface of a heavy duty pneumatic tire as a directional tread pattern. In the prior art figure 1 of Matsumoto, the directional tread pattern comprises a center rib, four circumferential grooves and lateral grooves. In the conventional figure 2 of Japan 323, the directional tread pattern comprises a center rib, two circumferential grooves and lateral grooves. When the prior art is viewed as a whole, one of ordinary skill in the art would readily appreciate that directional tread patterns and non-directional tread patterns are alternative patterns suitable for use for a heavy duty tire as disclosed by Ikeda. As to claim 10, Matsumoto discloses a pair of first circumferential grooves and a pair of second circumferential grooves for the prior art directional treads (figure 1) for a heavy duty tire.

Japan 303

**11) Claims 1, 5, 7-10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 303 (JP 6-166303) in view of Japan 310 (JP 02-141310).**

Japan 303, directed to reducing noise without lowering water discharging performance and maneuvering stability, discloses a pneumatic tire having a directional tread pattern comprising a center circumferential groove between a pair of ribs, main circumferential grooves, inclined subgrooves 3, middle blocks and shoulder blocks. See figure 1. Japan 303 teaches reducing noise by inclining the step in wall face of a block

at angle  $\alpha$  with respect to the radial direction of 5 degrees or more and inclining the kick out wall face of the block at an angle  $\beta$  of 10 degrees or more wherein angle  $\alpha$  is smaller than angle  $\beta$ . Japan 303 does not recite chamfering the edges of the blocks.

Japan 310, directed to a directional tread pattern having improved high speed running performance and reduced noise, discloses a pneumatic radial tire with a tread comprising blocks defined by circumferential grooves and lateral grooves. The leading edge of the blocks is chamfered to reduce stress at the leading edge. The chamfered inclined face 3A has a width of 0.5-5mm and defines an angle  $\theta$  of 20-70 degrees. See abstracts and figures. As can be seen from figure 1(b), the leading edge is chamfered whereas the trailing edge is not chamfered.

As to claim 1, it would have been obvious to one of ordinary skill in the art to chamfer only the leading edge of the blocks of Japan 303's directional tread pattern since Japan 310 suggests chamfering only the leading edge of blocks of a directional pattern of a pneumatic tire to reduce stress at the leading edge of the block and thereby improve high speed running performance and reduce noise.

With respect to "a tire reverse rotational direction side edge portion which has greater rigidity than the tire rotational direction side edge portion", the following comment is made: Japan 303 teaches that the rigidity of the block at the trailing wall is greater than the rigidity at the leading wall to control vibration and reduce noise (paragraphs 6 and 8) and thereby provides ample suggestion to configure the block

such that "the tire reverse rotational direction side edge portion has greater rigidity than the tire rotational direction side edge portion".

As to claims 7-10 and 13-15, see figure 1 of Japan 303.

**12) Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 303 in view of Japan 310 as applied above and further in view of Japan 718 (JP 2000-071718).**

As to claim 6, it would have been obvious to configure the chamfer as a rounded chamfer (radius = 1-3 mm) instead of a straight chamfer (width 0.5-5mm) since Japan 718, directed to the tire tread art, teaches rounded chamfers (figure 2 (1)) and straight chamfers (figure 2(2)) as being alternatives.

**13) Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 303 in view of Japan 310 as applied above and further in view of Japan 505 (JP 64-36505).**

As to claim 16, it would have been obvious to use the claimed groove widths in view of Japan 505's suggestion to gradually decrease the groove widths of circumferential grooves of a directional tire tread pattern from the center to the side edges of the tire to reduce noise.

Japan 104

**14) Claims 1 and 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 104 (JP 62-026104) in view of Japan 303 and Japan 310.**



This Japan 104 rejection is applied to address the subject matter of dependent claims 11 and 12. If the rejection of Japan 303 in view of Japan 310 falls, then this Japan 104 rejection would also fall.

Japan 104 discloses a pneumatic tire for a passenger car comprising a center rib, circumferential grooves, inclined subgrooves, central blocks, middle blocks and shoulder blocks. Japan 104 does not recite using angles alpha and beta for the shoulder grooves.

As to claims 1 and 5-10, it would have been obvious to one of ordinary skill in the art to use the claimed angles alpha and beta for blocks separated by the shoulder grooves of Japan 104's directional tire tread pattern since Japan 303, also directed to a directional tire tread pattern, suggests reducing noise and forming wall faces of blocks using angles alpha of 5 degrees or more and angle beta or 10 degrees or more wherein angle alpha is smaller than angle beta.

Furthermore, it would have been obvious to one of ordinary skill in the art to chamfer only the leading edge of the blocks of Japan 104's directional tread pattern since Japan 310 suggests chamfering only the leading edge of blocks of a directional pattern of a pneumatic tire to reduce stress at the leading edge of the block and thereby improve high speed running performance and reduce noise.

With respect to "a tire reverse rotational direction side edge portion which has greater rigidity than the tire rotational direction side edge portion", the following comment is made: Japan 303 teaches that the rigidity of the block at the trailing wall is greater than the rigidity at the leading wall to control vibration and reduce noise

(paragraphs 6 and 8) and thereby provides ample suggestion to configure the block such that "the tire reverse rotational direction side edge portion has greater rigidity than the tire rotational direction side edge portion".

As to claims 11 and 12, the circumferential groove on each side of Japan 104's center rib comprises convex groove portions. See figure 2 of Japan 104.

**Allowable Subject Matter**

15) **Claims 17, 18, 20, 21 and 23 are allowed.**

**Claim 22 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.**

**Remarks**

16) Applicant's arguments with respect to claims 1, 5-16, 19 and 22 have been considered but are moot in view of the new ground(s) of rejection.

German 475 (DE 4239475, figure 9), Ishida (US 2006/0162831, figure 1), Glover et al (US 5, 386,862, figure 4A) and Gerresheim et al (US 2002/0166615, figure 6) are cited of interest.

17) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone

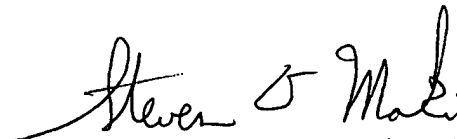
Application/Control Number:  
10/532,070  
Art Unit: 1791

Page 10

number for the organization where this application or proceeding is assigned is 571-273-8300.

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Steven D. Maki  
December 22, 2007

  
**STEVEN D. MAKI** 12-22-07  
**PRIMARY EXAMINER**